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UNIVERSITY OF RHODESIA

**AGRICULTURAL RESEARCH AND
DEVELOPMENT IN SOUTHERN
RHODESIA, 1924-1950**

by

H. WEINMANN

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by

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FOREWORD

A continuation of the writer's earlier publication on agricultural research and development in Southern Rhodesia under the rule of the British South Africa Company (1890-1923), this volume covers the first 27 years under Responsible Self-Government.

European agriculture in Southern Rhodesia during this period differed in many respects from that of to-day. The practice of green manuring came into extensive use and, in conjunction with the application of phosphates, became the generally accepted means of maintaining soil fertility. The use of nitrogenous fertilizers for maize, Rhodesia's main crop, was largely unknown and considered uneconomical. The introduction of high-yielding hybrid maize varieties towards the end of the period was probably the most important achievement in the field of crop production and, together with the use of adequate amounts of nitrogenous fertilizers, resulted in greatly increased yields in the years to come.

Acre yields of tobacco were improving markedly and total tobacco production rose steeply during this period, which also saw the beginning of soil conservation and the establishment of the Natural Resources Board under the Natural Resources Act. Considerable progress was made in the field of animal husbandry and in the fight against the tsetse fly, but there were also disappointments and failures, such as the repeated ups and downs in cotton production or the decline in wheat production in the forties.

Agricultural instruction to Africans was initiated soon after change-over to Responsible Self-Government, culminating in the establishment of the Department of Native Agriculture. African agriculture was changing from shifting cultivation to a stable type of farming and more advanced African farmers entered the cash economy of the country towards the end of the period; however, progress was slow, and overpopulation and overstocking in the African areas were developing into serious problems.

In the relatively short span of 27 years the Department of Agriculture developed from a relatively modest establishment, consisting of about 60 technical and administrative officers, into the Ministerial Division of Agriculture and Lands, with an establishment of 858 officers and an annual expenditure of over £1.8 million. The last two years of this period saw the formation of two new departments within this organization:— The Department of Research and Specialist Services and that of Conservation and Extension Services. The Department of Irrigation had been greatly expanded, whilst tobacco research became the responsibility of a newly constituted, statutory Tobacco Research Board.

With greatly increased funds available and a better organization, research and advisory services were now enabled to enter a period of considerable expansion as well as of qualitative improvement and, as the author points out, "the year 1950 may well be taken as the start of a new era in the history of Southern Rhodesia's agriculture."

I take this opportunity of congratulating and thanking the University of Rhodesia for sponsoring, financially and otherwise, the preparation of this excellent and valuable account of agricultural research and development in Southern Rhodesia from 1924 to 1950. I have found it as interesting and informative as the previous report which covered the period 1890 to 1923.

I would like to suggest that the preparation of an account covering the period 1951 to 1970 should be sponsored in a similar manner and the work commenced as soon as possible. These two decades covered a period of dynamic and fascinating development in Rhodesian agricultural research and development, and it will be a great advantage if all the relevant facts could be recorded while many who participated in the work are still there to consult.

Finally I wish to congratulate the author on the able and interesting manner in which he has presented this account.

C. A. MURRAY,
former Secretary of Agriculture.

ACKNOWLEDGMENTS

The writer wishes to express his sincere thanks to Prof. J. M. de Villiers and Prof. A. G. Davis of the Department of Agriculture, University of Rhodesia, for encouragement and facilities provided in their Department.

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C O N T E N T S

	Page
THE DEPARTMENT OF AGRICULTURE	1
THE EXPERIMENTAL STATIONS AND FARMS	7
<p>The Salisbury Agricultural Experiment Station, 7. — The Gwebi Experimental Farm and College of Agriculture, 8. — Demonstration Stations and Farms, 8. — Tobacco Experiment Stations, 10. — The Cotton Breeding Station, Gatooma, 12. — Horticultural Experiment Stations, 13. — The Grasslands Experiment Station, Marandellas, 14. — The Matopos Experiment Farm and School of Agriculture, 15. — The Henderson Research Station, 16.</p>	
MAIZE	19
<p>Open-pollinated Varieties, 19. — Hybrid Maize, 19. — The Seed Maize Association, 22. — Silage Maize, 22. — Rotation Experiments, 23. — Effects of Green Manure and other Crops, 28. — Effects of Fertilizers, Lime and Compost, 32. — Methods of Planting and Cultivation, 39. — Witchweed Control, 42. — Maize Production, 44. — Legislation, 46. — Export and Import, 49.</p>	
WHEAT	51
<p>Varieties, 51. — The Seed Wheat Association, 53. — Cultural Practices, 53. — Quality, 54. — Legislation, 55. — Wheat Production, 56. — Wheat Import and Export, 57.</p>	
OTHER GRAIN CROPS	59
<p>Sorghum, 59. — Millets, 60. — Oats, 61. — Barley, 61. — Rye, 62. — Rice, 62.</p>	
TOBACCO	63
<p>Types and Varieties of Tobacco, 63. — Use of Fertilizers, Compost and Manure, 65. — Various Cultural Practices, 70 — Rotations, 71 — Diseases, 72. — Insect Pests, 74. — The Root Knot Nematode, 76. — Weeds, 78. — Engineering Research, 78. — Production, Marketing and Export, 79.</p>	
COTTON	85
<p>Cotton Breeding, 85. — Pests and Diseases, 86. — Effects of Fertilizers and Compost, 88. — Spacing, 89. — Rotation Experiments, 89. — African-grown Cotton, 89. — The Cotton Research and Industry Board, 90. — Production, 90. — Export and Manufacture, 91.</p>	
GROUNDNUTS	93
<p>Varieties, 93. — Effects of Manures and Fertilizers, 95. — Spacing, 95. — Groundnuts in the Crop Rotation, 96. — Production, Export and Import, 97.</p>	

SUNFLOWER	99
Varieties and Yields, 99. — Fertilizer Treatment, 100. — Sunflower as a Fodder Crop, 100. — Sunflower as a Rotation and Green Manure Crop, 101. — Production, 102.	
LINSEED	103
SUGARCANE	105
LEGUMES	109
Edible Beans, 109. — Velvet Beans, 109. — Cowpeas, 110. — Dolichos Beans, 111. — Sunn Hemp, 111. — Soya Beans, 113. — Lucerne, 114. — Other Legumes, 115. — Acreages and Production, 115.	
ROOT CROPS AND SUCCULENTS	119
Potatoes, 119. — Sweet Potatoes, 121. — Edible Canna, 122. — Pumpkins and Cattle Melons, 123.	
HORTICULTURE	125
Citrus, 125. — Deciduous Fruit, 129. — Other Fruits and Crops, 129. — Coffee, 130. — Tea, 131. — Pyrethrum, 132.	
GRASSES AND PASTURES	133
Early Trials with Pasture and Fodder Grasses, 133. — Pasture Research between 1927 and 1944, 134. — Establishment and Work of the Pasture Research Branch, 136. — Production of Veld Hay, Cultivated Grasses and Graminaceous Fodder Crops, 139.	
IRRIGATION, METEOROLOGY AND HYDROGRAPHY	141
The Irrigation Department, 141. — Irrigation Development, 141. — Water Legislation, 143. — Meteorology, 143. — Hydrography, 144.	
SOIL CONSERVATION	145
The Beginnings, 145. — Contour Ridges, 145. — The Intensive Conservation Areas, 146. — The Department of Conservation and Extension, 146.	
ANIMAL HUSBANDRY	149
CATTLE	149
Beginnings of the Meat Export Trade, 149. — Livestock Improvement, 149. — The Cold Storage Commission, 150. — Feeding Experiments, 151. — Breeding Policy and Research, 153. — Statistics, 154.	
THE DAIRY INDUSTRY	156
Milk Recording and Quality Testing, 156. — Total Milk Production, 157. — Butter Production, 158. — Cheese Production, 158. — Legislation, 159.	

PIGS	160
Breeds, 160. — Feeding Experiments, 161. — Legislation, 161. — Production, Manufacture and Export, 161.	
SHEEP	162
GOATS	164
THE POULTRY INDUSTRY	164
Early Development, 164. — The Poultry Experiment Stations, 165. — Eggs Laying Tests, 166. — Poultry Statistics, 166. — Egg Production and Trade, 166.	
AGRICULTURAL CHEMISTRY	169
Soil Investigations, 169. — Fertilizers, 170. — Compost and Farm Manure, 172. — Feedstuff Analyses, 172. — Legislation, 172. — Toxicological Work, 173. — The Dehydration Industry, 173.	
ENTOMOLOGY	175
General, 175. — Legislation, 175. — Locusts, 176. — The Tsetse Fly Problem, 178.	
BOTANY AND PLANT PATHOLOGY	183
Systematic Botany, 183. — The Herbarium, 183. — The Botanic Garden, 184. — Ecology, 184. — Weeds and Poisonous Plants, 185. — Legislation, 186. — Plant Pathology, 187. — Seed Testing, 188.	
EUROPEAN LAND SETTLEMENT AND RELATED SUBJECTS	189
The Department of Lands, 189. — Alienation of Crown Land, 189. — Land Settlement Schemes, 190. — Land Apportionment, 192. — European Farm Population Statistics, 194. — The Rho- desia National Farmers' Union, 195. — Gross Output of the Agricultural Industry, 196. — The Land and Agricultural Bank of Southern Rhodesia, 197.	
AFRICAN AGRICULTURE	199
Shifting Cultivation, 199. — The Advent of the Plough, 201. — The Beginnings of Agricultural Instruction to Africans, 202. — The Agricultural Staff of the Department of Native Affairs, 203. — The Department of Native Agriculture, 203. — Agricultural Demonstrations, 204. — Centralization of Lands, 207. — Com- munity Demonstration Work, 208. — Soil Conservation, 208. — Irrigation Development, 209. — Experimental Farms and Agricul- tural Schools, 209. — The Problem of Overstocking, 211. — Live- stock Improvement, 213 — Pasture Improvement, 214. — Crop Production, 214. — Marketing, 215.	
REFERENCES	219

THE DEPARTMENT OF AGRICULTURE

Southern Rhodesia's Department of Agriculture was established in 1897. By 1923, when the territory became a self-governing Crown Colony, it had, under the able Directorship of Dr. Eric A. Nobbs, developed into a strong and efficient organization, comprising a number of specialist branches.

In 1924 the senior professional officers in charge of these branches were:— H. G. Mundy, Chief Agriculturist; G. N. Blackshaw, Chief Chemist (succeeded in 1926 by A. D. Husband); R. W. Jack, Chief Entomologist; H. W. Taylor, Tobacco and Cotton Expert (succeeded in 1925 by D. D. Brown); J. S. Henkel, Forest Officer; A. G. Turner, Citrus Adviser (succeeded in 1925 by G. W. Marshall as Horticulturist); A. C. Jennings, Irrigation and Agricultural Engineer; C. L. Robertson, Hydrographic Engineer; A. Little, Poultry Expert (succeeded in 1929 by H. G. Wheeldon); T. Hamilton, Dairy Expert; W. E. Meade, Editor of the "Rhodesia Agricultural Journal"; F. Eyles, Botanist and Mycologist (retired as Botanist in 1928, succeeded by J. C. Hopkins as Mycologist in 1926); and A. B. Bell, Statistician.

By present-day standards the Department was small:— The entire establishment consisted of about sixty technical and administrative officers, and the annual vote of expenditure for the year 1923/24 amounted to £47 944 (385).

Dr. Nobbs retired in 1924 after fifteen years of service, and it was acknowledged that "to him belongs the credit of building up to its high standard of efficiency the present staff of the Agricultural Department, and for much of the agricultural legislation now on the Statute Book" (346).

In the following year the post of Director of Agriculture was abolished and a non-technical permanent head to the Department was appointed, with the title of Secretary, Department of Agriculture. The first incumbent of this post was D. McDonald, who was succeeded by A. C. Bagshawe in 1930, when the Department was thoroughly reorganized. Under this reorganization the Department of Agriculture, the Lands Department, the Surveyor General's Department, the Veterinary Department and the Department of Veterinary Research were concentrated under the administration of the Secretary of the Department of Agriculture and Lands, and re-grouped, as follows:—

(1) *The Division of Animal Industry*, including the Veterinary Department, the Department of Animal Husbandry, the Dairy Branch and the

Poultry Branch, all under the control of J. M. Sinclair, who was also the Chief Veterinary Surgeon.

(2) *The Division of Plant Industry*, including the Agriculturist's Branch, the Tobacco Branch, the Horticulturist, the Botanist, the Plant Pathologist, and the Experimental Farms and Stations, under the control of the Chief Agriculturist, H. G. Mundy.

(3) *The Lands Department* under the direct control of the Secretary, who assumed in his own person the functions of Director and Assistant Director, Department of Lands.

(4) *The Surveyor General's Department* under the Surveyor General.

(5) *The Division of Agricultural Engineering*, including Irrigation and Meteorology, under the Chief Irrigation Engineer, C. L. Robertson.

(6) *The Division of Forestry* under the Chief Forest Officer, J. S. Henkel.

(7) *The Entomological Branch* under the Chief Entomologist, R. W. Jack.

(8) *The Chemistry Branch* under the Chief Chemist, A. D. Husband.

(9) *The Department of Veterinary Research* under L. E. W. Bevan as Director. (347f).

The post of Director of Agriculture was also re-established in 1930, its main function being the guidance and co-ordination of the research of the various branches. The post was held from 1930 to 1940 by Dr. C. K. Brain, a former Professor of Entomology at Stellenbosch University and Principal of the Stellenbosch-Elsenburg College of Agriculture. Apart from his administrative duties and work as the Editor of the Rhodesia Agricultural Journal, Dr. Brain was responsible for much of the botanical work of the Department (101).

In 1933 Major H. G. Mundy succeeded Bagshawe as Secretary, and D. E. McLoughlin assumed duties as Agriculturist. A Stock Adviser, W. Fleming, had been appointed in 1926, but on termination of his services in 1930, Dr. A. E. Romyn took over the newly created post of Senior Animal Husbandry Officer, to become Chief Animal Husbandry Officer in 1933.

The economic depression in the early thirties resulted in financial stringency and necessitated a reduction in staff and curtailment of many activities of the Department. By 1933, the European farming community found itself in a critical situation and in serious financial difficulties. Due to the outbreak of foot and mouth disease in the Colony in 1932 export trade in agricultural products to adjoining territories was completely interrupted or restricted for

a long period, and this was followed by adverse weather conditions in 1933, resulting in poor yields.

At the end of 1933 the Government therefore appointed a Committee under Mr. Max Danziger, J. P., a Member of Parliament and later Minister of Finance, as Chairman to make a full enquiry into the economic position of the agricultural industry of Southern Rhodesia. The terms of reference of the Committee were wide and included as the first point "to review the farming position of the Colony in general, and suggest measures which might be taken to enable farming to be conducted more profitably with a view to securing to the producer a return more in keeping with reasonable costs of production." The report of the Committee was published in March 1934 and, although a debate on the report in Parliament had to be delayed on account of a general election, the Secretary of the Department reported at the end of the year that "the Government has put into effect certain of the recommendations as opportunity has offered, and there is no doubt that this Committee's work will have an important bearing on the future policy of agriculture in the Colony" (348 a,b, 382).

The principal measures adopted by the Government during the following years to assist the farming industry were enumerated by the Secretary in his report for 1936, and included the Farmers' Debt Adjustment Act of 1935, which made provision for the alleviation of farmers' debts. Largely as the result of such measures, the general position of the farming community had improved by 1936, and the Secretary expressed the hope that the Colony was "advancing towards a period of renewed agricultural prosperity" (348 c, d)

The war years brought new problems and difficulties for the Department. To ensure adequate control of the agricultural industry during this difficult period the Government had to take certain restrictive measures. Thus, agriculture was declared a controlled industry and only those men engaged in agriculture who could be reasonably spared were permitted to join the military forces. At the end of 1944, 581 men previously engaged in farming were on military service. Of the Departmental staff itself, which by then consisted of about 260 officers, between 30 and 40 per cent were on active service during the war but were partly replaced by temporary personnel. Alienation of Crown Land was suspended for the duration of the war and country land sales were regulated. The prices of many agricultural products were controlled and, where necessary, the producers were subsidized. In addition, exports and imports of agricultural products, cattle sales, fertilizer supplies and acreage planted to tobacco were controlled.

Central and District Food Production Committees were formed to increase the production of essential foodstuffs by the adoption of improved farming methods and to organize the provision of labour gangs under the Compulsory Native Labour Act of 1942. The adoption of better farming methods was stimulated by a Maize Bonus Scheme and a Wheat Bonus Scheme, which assured a guaranteed price and a bonus for the product, provided the crop was grown in accordance with certain defined conditions of sound farming practice, namely the use of erosion control and of green manure and compost. A similar scheme was the Dairy Bonus Scheme.

With the establishment of Air Force Training Centres and camps for internees, prisoners of war and refugees, the European population increased by about 25 per cent during the war years. This increased European population provided an improved internal market for many agricultural products, especially meat, dairy and poultry products, and thus exerted a beneficial effect on agricultural development. Farmers responded well to the appeal for increased production; supplies of foodstuffs were generally adequate and rationing became necessary only in the case of butter. The area under summer crops increased from 449 678 acres in 1939/40 to 517 785 acres in 1943/44 (348 g-m).

Legislation passed by the Government during the war did not consist entirely of control measures. A Commission appointed to enquire into the preservation of the natural resources of the Colony published its report in 1939, and in 1941 Parliament passed the Natural Resources Act, acclaimed as "the greatest forward step in the agricultural history of Rhodesia" and one of the most enlightened pieces of legislation passed in recent years (104). The object of the Act was "to make provision for the conservation and improvement of the natural resources of the Colony" and the Act provided for the establishment of a Natural Resources Board "to administer this measure and to advise the Government as to further legislation which may be required in order to restore, conserve and develop to best advantage the natural resources of Southern Rhodesia." Sir Robert McIlwaine, K.C., a Water Court Judge, who had been largely responsible for this legislation, became the first Chairman of the Natural Resources Board (106, 210, 348g,i).*

Major Mundy, O.B.E., retired as Secretary in 1943 after thirty-three years of service and having successfully steered the Department and the agricultural industry of Southern Rhodesia through difficult periods. His place was taken

* Sir Robert McIlwaine, K.C., died in October, 1943. His name is commemorated in the "Robert McIlwaine National Park" and "Lake McIlwaine" near Salisbury (348k).

by the former Director of Irrigation, C. L. Robertson, who in turn was succeeded by Dr. A. E. Romyn as Secretary in 1946.

The post-war years saw a considerable expansion of the Department, coupled with a far-reaching reorganization. Following certain recommendations made in the Survey of the Public Service in 1946/47, a new post of Director of Research and Specialist Services was created in 1948 to co-ordinate the work of these branches in a separate Department. At the same time a new Sub-Department of Conservation and Extension was built up under an Assistant Director, but became a separate Department of Conservation and Extension Services in 1950.

A Branch of Agricultural Economics was established in 1947 under S. M. Makings as Chief Agricultural Economist. Its most important project was the Agro-Economic Survey of Southern Rhodesia initiated in 1949 (204, 348 o, 349 a, b).

A report on agricultural teaching, research and advisory work had been presented to the Legislative Assembly in 1949, and another lengthy report on the agricultural development of Southern Rhodesia followed in 1950. Both reports were the work of Sir Frank Engledow, Professor at Cambridge University and a member of the Development Co-ordinating Commission, who had visited Southern Rhodesia in 1948 on the invitation of the Government and was assisted in his work by Professor H. G. Leppan of the National Marketing Council of South Africa. These reports must have supplied much food for thought to the Government officials concerned (115, 116, 350a).

Under the new organization the Ministerial Division of Agriculture and Lands, under Dr. Romyn as Secretary, included the following:—

(1) *The Department of Research and Specialist Services* under J. K. Chorley as Director, consisting of the various Specialist Branches, the Experiment Stations and Gwebi Agricultural College.

(2) *The Department of Conservation and Extension Services* under C. A. Murray as Director.

(3) *The Department of Forestry* under E. J. Kelly Edwards as Chief Conservator of Forests.

(4) *The Department of Lands* under L. R. S. Hill as Under-Secretary.

(5) *The Department of Veterinary Services* under P. D. Huston as Director, with two Assistant Directors (Field Services and Research, resp.).

(6) *The Department of Irrigation* under P. H. Haviland as Director.

The size of the Division will be appreciated by reference to Table 1, which gives the establishments and estimated expenditure of its constituent departments, as extracted from the official Estimates of Expenditure for the year ending 31st March, 1951 (383). With the considerable increase in establishments as well as in funds available for research and other purposes, the stage was set for greatly increased and intensified activity in the agricultural research, advisory and general services. In this respect, the year 1950 may well be taken as the start of a new era in the history of Southern Rhodesia's agriculture.*

TABLE 1
ESTABLISHMENT AND ESTIMATED EXPENDITURE, MINISTERIAL
DIVISION OF AGRICULTURE AND LANDS, 1950/51.

Department	Number of Officials	Estimates of Expenditure	
		Establishments	Total
Administration, Natural Resources Board and General	71	£ 52 480	£ 198 382
Research and Specialist Services	200	141 415	341 394
Conservation and Extension Services	96	81 494	274 544
Irrigation	212	145 919	631 519
Veterinary Services	115	98 439	134 834
Forestry	50	43 578	82 459
Lands	42	30 548	73 780
Surveyor-General	72	47 449	101 591
Total	858	641 322	1 838 503

* A brief history of the Department of Agriculture and its activities from 1907 to 1950 is presented in the Official Year Book of Southern Rhodesia, No. 4-1952, pp.420-426 (388).



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